

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Math 7+ Unit 3 (Equations) Major Review

Solve the following equations showing all steps.

1. $2(n - 7) + 3 = 9$	2. $0 = 5(k + 9)$
3. $\frac{p}{3} - 7 = -2$	4. $3(2n - 7) = 9$
5. $4p + 5 - 7p = -1$	6. $7 - y + 5y = 9$
7. $8e + 3(5 - e) = 10$	8. $-37 = 3x + 11 - 7x$
9. $-11x - (-9) = 97$	10. $14 + \frac{y}{-7} = 19$

Simplify each expression by combining like terms.

11. $5c^2 - 18c + -8c^2 + 17c - 10$	12. $-18b + 20 - 10b + (-9) + 2b$
-------------------------------------	-----------------------------------

Solve each by 1) defining a variable, 2) setting up an equation, and 3) solving.

13. 6 times a number increased by 17 is 19. Find the number.  Variable: _____  Equation: _____  Solution: _____	14. 20 more than a number times -4 is equal to 44. What is the number?  Variable: _____  Equation: _____  Solution: _____
15. A store is selling a new couch for \$907.00 on a 24-month payment plan. If a down payment of \$145.00 is given, how much will a customer have to pay each month? Round your answer to the nearest penny.  Variable: _____  Equation: _____  Solution: _____	16. A telephone company charges \$5 a month plus \$.15 a minute for long distance. If your total phone bill was \$16.25, how many minutes did you talk?  Variable: _____  Equation: _____  Solution: _____
17. Mike has 27 DVDs. This is 5 less than 4 times the number that Jed has. How many does Jed have?  Variable: _____  Equation: _____  Solution: _____	18. Laura has 7 more than 3 times the number of bracelets that Penelope has. If together they have 103 bracelets, how many does each girl have? Variables: _____ _____  Equation: _____  Solutions: _____

19. Solve for x.  $3x^2 = 192$

20. Convert to a fraction.

$\overline{.47}$

21. Solve for x.  $x^3 = -64$

22. Which number is between 14 and 15?

A.  $\sqrt{200}$     B.  $\sqrt{190}$     C.  $\sqrt{100}$     D.  $\sqrt{228}$

23. Determine if the following numbers are rational or irrational (explain):

$\frac{1}{3}$

\_\_\_\_\_

3.46

\_\_\_\_\_

$\sqrt{81}$

\_\_\_\_\_

$\sqrt{3}$

\_\_\_\_\_